

CLADDING-PUMPED 3-LEVEL FIBER LASER/AMPLIFIER

ABSTRACT OF THE INVENTION

An optically active fiber (30) is disclosed for making a fiber laser (18) or an amplifier (16). This double-clad structured active fiber (30) has a core (34), doped with an optically excitable ion having a three-level transition. The core (34) has a core refractive index and a core cross-sectional area. An inner cladding (32) surrounds the core (34). The inner cladding (32) has an inner cladding refractive index less than the core refractive index, an inner cladding cross-sectional area between 2 and 25 times greater than that of the core cross-sectional area, and an aspect ratio greater than 1.5:1. An outer cladding (36) surrounds the inner cladding (32) and has an outer cladding refractive index less than the inner cladding refractive index.